

HIGH-SPEED GM-C TUNING

Abstract of the Disclosure

A technique to achieve high-speed tuning of a Gm-C circuit, such as, for example, a Gm-C filter. In one
5 embodiment, a master Gm-C time-constant circuit incorporates at least one element (either a transconductance or a capacitance) that is matched to a corresponding element (transconductance or capacitance) in the (slave) Gm-C circuit. A waveform generated by the
10 master Gm-C time-constant circuit is used to control a sampler. In one embodiment, the sampler samples a precision counter so as to result in a sampler output having a polarity that steers the tuning voltage in the necessary direction. A tuning control stage coupled to the
15 sampler output implements an algorithm that causes the tuning voltage to converge, with a predetermined precision, to the desired tuning voltage.